

Understanding between the US and Canada establishes a series of distance separations required by stations of various classes on both sides of the border.² The largest such distance separation required is 386 km. Since the proposed facility is more distant from the border than the largest required separation between stations, there can be no Canadian station within the required separation distance, and coordination with Canada for the reference facility proposed in the Petition should be only a formality.

Summary

The change in channel of WSAH-DT from 42 to 41, the relocation of the WSAH-DT transmitter, the increase in effective radiated power of the WSAH-DT facility to 990 kW, the increase in height of the station's antenna, and the proposed change in its antenna pattern have been shown to fall within the maximum values permitted by the Commission's rules and also have been shown not to produce impermissible interference to any other stations. The proposed location for the transmitter falls short of the spacing requirements with respect to one other station, but it is argued that those requirements do not apply in this case; should the Commission adopt an alternative interpretation of the rules, a waiver of the spacing requirement is requested.

² *Letter of Understanding Between the Federal Communications Commission of the United States of America and Industry Canada Related to the Use of the 54-72 MHz, 76-88 MHz, 174-216 MHz and 470-806 MHz Bands for the Digital Television Broadcasting Service Along the Common Border*, dated September 12 and September 22, 2000.

**Figure 1 — Technical Specifications — Proposed WSAH-DT Facility
Channel 41 — Bridgeport, CT**

Frequency

Channel	41
Frequency Band	632 - 638 MHz
Center Frequency	635 MHz

Location

Site	Empire State Building, New York, NY
Geographic Coordinates (NAD27)	40° 44' 54" N 73° 59' 10" W
Tower Registration (FAA Study Number)	1007048 (1990-AEA-0601-OE)

Elevation

Elevation of site above mean sea level	15.5 m
Overall height of tower above site elevation	443.0 m
Overall height of tower above mean sea level	458.5 m
Height of antenna radiation center above site elevation	365.5 m
Elevation of average terrain (45-degree spaced radials, 3.2-16.1 km)	13.6 m
Height of antenna radiation center above mean sea level	381.0 m
Height of antenna radiation center above average terrain (HAAT)	367.4 m

Antenna

Manufacturer	RFS
Model	RD16A-Ch41
Description	Side-Mounted UHF Cavity Slot Array
Orientation (direction of primary axis of azimuth pattern)	109 degrees true
Electrical beam tilt	1.3°
Mechanical beam tilt	None
Polarization	Horizontal

Power

Effective radiated power (ERP) (main beam – 1.3° depression)	990 kW
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\$73.622(i)		Post Transition Table of DTV Allotments										
Connecticut												
Bridgeport		From 42	To 41									
Facility ID	State & City		NTSC	DTV								
			Chnl	Chnl	ERP (kW)	HAAT (m)	Antenna ID	Latitude (DDMMSS)	Longitude (DDMMSS)	Area (sq km)	Population (thousand)	Percent Interference Received
70493	CT	Bridgeport	43	41	990	368	TBD	404454	735910	25664	19265	1.1

Figure 2 — Table of Allotments & Appendix B Data for Proposed WSAH-DT Facility

Notes: Since 48 scenarios existed for the proposed facility when studied by the TV_Process program, the one selected for derivation of the interference and other values was the one that included only the DTV Plan facilities for all interfering stations. Use of other scenarios would lead to slightly different results. The Percent Interference Received was calculated using population values and varied from 1.1 to 1.3 percent, depending upon the scenario evaluated. If it were calculated using area values instead, the range of Percent Interference Received would be from 3.2 to 3.7 percent, depending on the scenario selected. Similarly, the Area and Population values vary according to which scenario is evaluated.

Since the antenna pattern proposed has not been used previously and thus has not been registered in the CDBS, its Antenna ID is shown as TBD (to be determined).

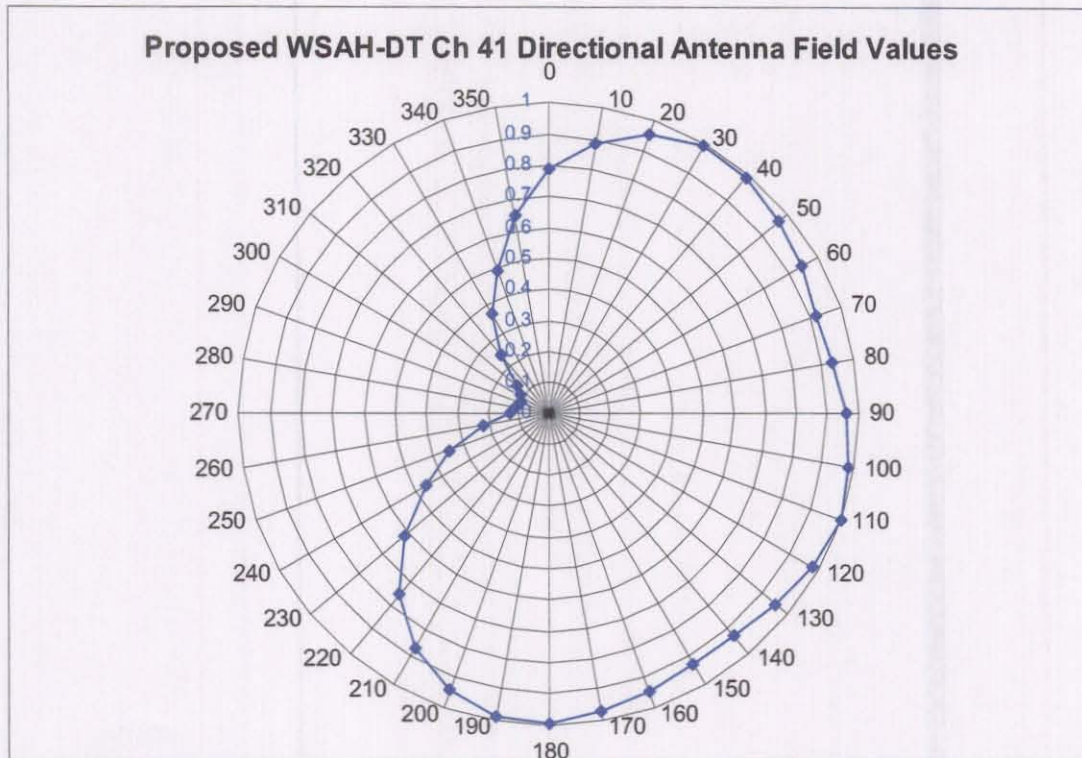


Figure 3 — WSAH-DT Azimuth Pattern in Relative Field Values

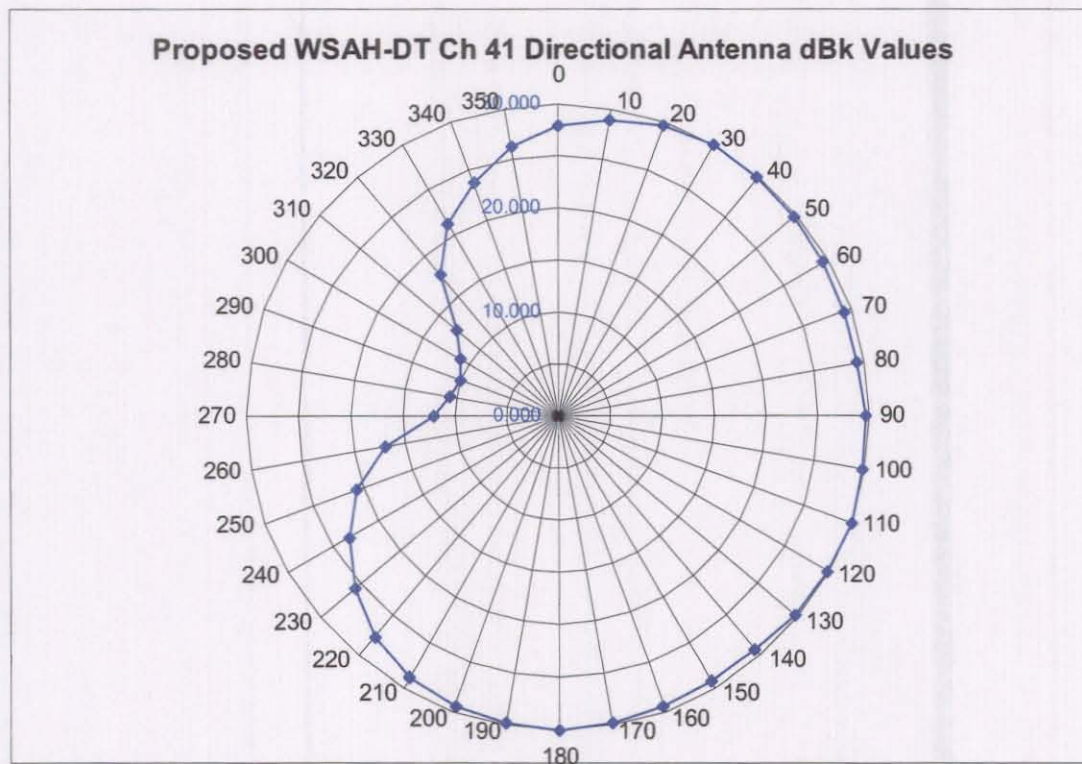


Figure 4 — WSAH-DT Azimuth Pattern in dBk (at Depression w/Maximum)

Figure 5 — WSAH-DT Azimuthal Radiation Pattern Tabulated Values

Azimuth	Relative Field	Effective Radiated Power (dBk)	Azimuth	Relative Field	Effective Radiated Power (dBk)
0	1.000	29.956	180	0.100	9.956
10	0.980	29.781	190	0.110	10.784
20	0.955	29.556	200	0.130	12.235
30	0.925	29.279	210	0.230	17.191
40	0.920	29.232	220	0.360	21.082
50	0.945	29.465	230	0.470	23.398
60	0.970	29.692	240	0.630	25.943
70	0.990	29.869	250	0.770	27.686
75	1.000	29.956	260	0.870	28.747
80	0.990	29.869	270	0.950	29.511
90	0.950	29.511	280	0.990	29.869
100	0.870	28.747	285	1.000	29.956
110	0.770	27.686	290	0.990	29.869
120	0.630	25.943	300	0.970	29.692
130	0.470	23.398	310	0.945	29.465
140	0.360	21.082	320	0.920	29.232
150	0.230	17.191	330	0.925	29.279
160	0.130	12.235	340	0.955	29.556
170	0.110	10.784	350	0.980	29.781

Derived from data supplied by manufacturer

Note: The plots in Figures 3 & 4 show the azimuth pattern after rotation of the antenna to 109 degrees true. The data in Figure 5 represents the antenna pattern prior to rotation. To duplicate the interference study results, it is necessary to input the un-rotated values in the table above and to allow the TV_Process software to carry out the data rotation to 109 degrees.

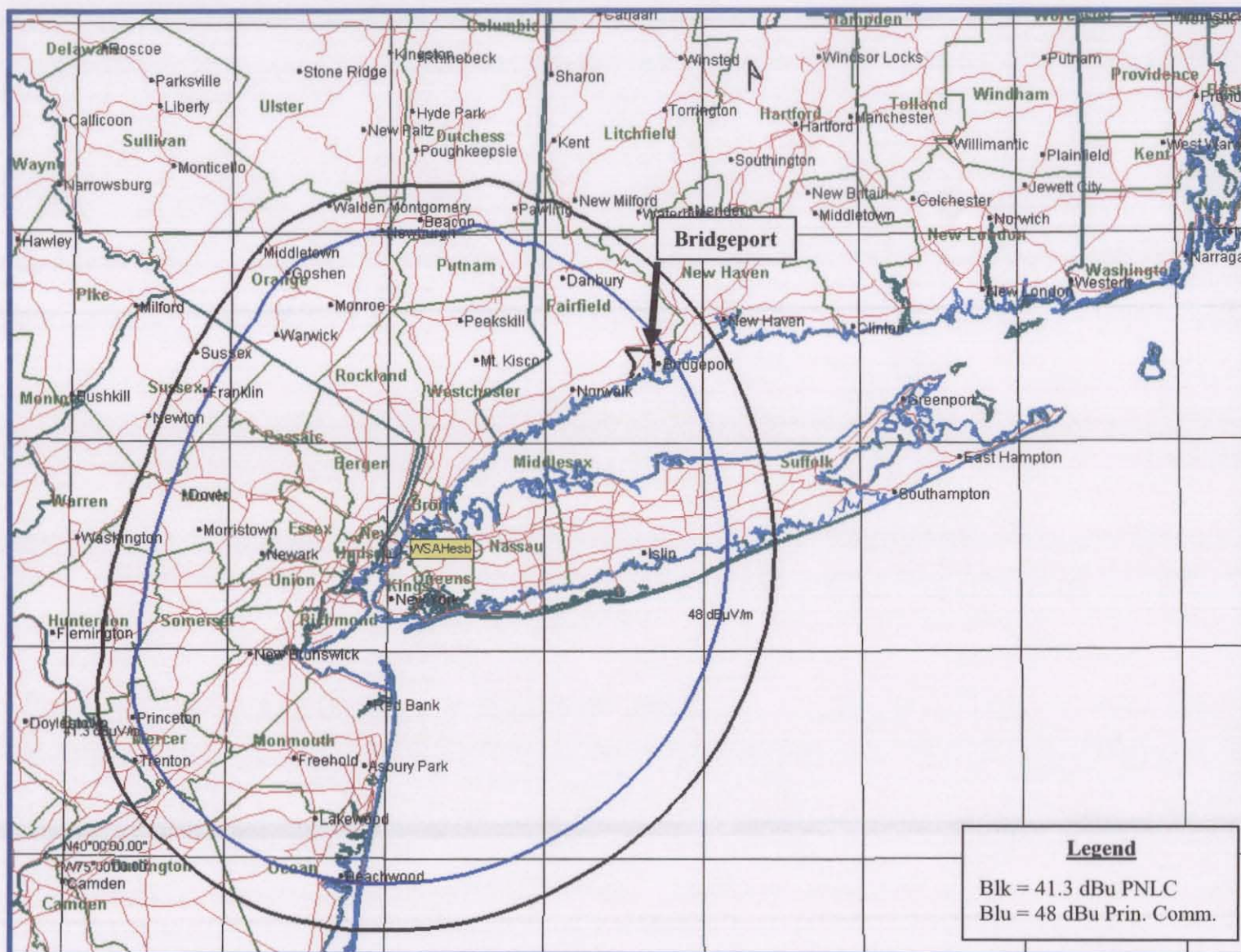


Figure 6 — 41.3 dBu Noise Limited and 48 dBu Principal Community Contours of Proposed WSAH-DT Facility